SPACE ENVIRONMENT MONITOR – NPOESS (SEM-N)

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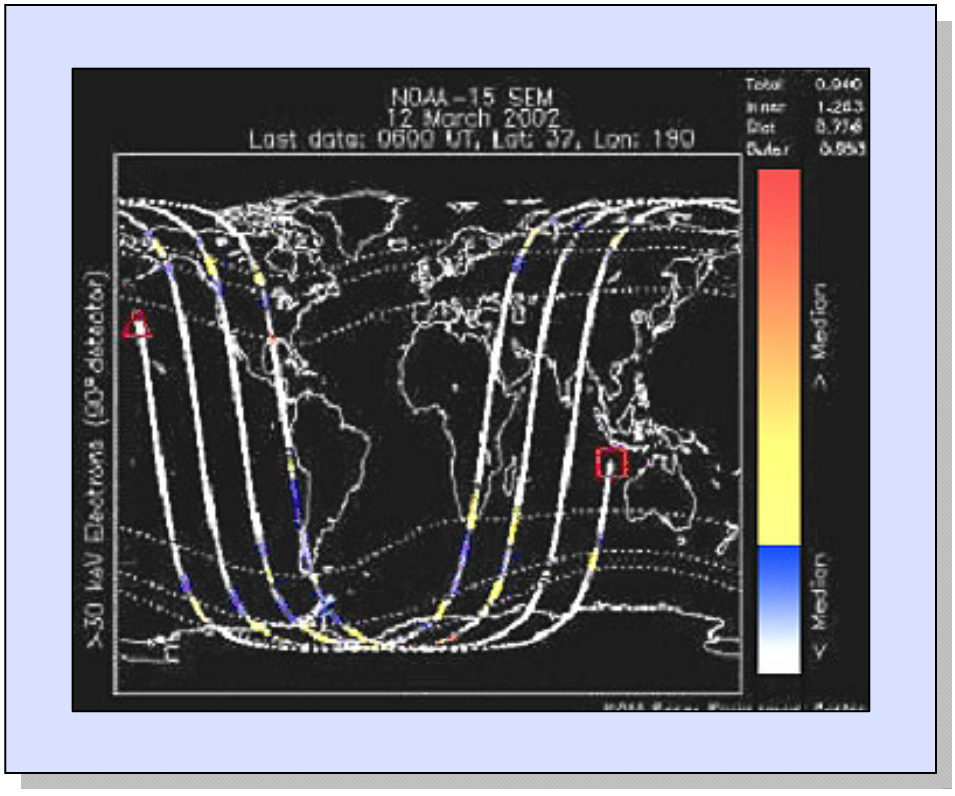
NPOESS-IPO Instrument SEM-N

The Space Environment Monitor – NPOESS (SEM-N) is the primary instrument for 5 Environmental Data Records (EDRs). SEM-N is the only space weather sensor on NPOESS.

SEM-N is comprised of the Special Sensor J5 (SSJ5) for detection of low-energy particles, the Energetic Particle Spectrometer (EPS) for medium-energy particles, and omni-directional detectors for high-energy particles. In concert, these sensors are capable of providing measurements of the energy spectrum and directional distribution of charged particle fluxes in the vicinity of the spacecraft. The measurements are indicative of the population of the Earth's radiation belts and of charged particle precipitation phenomena resulting from solar activity.

These data provide information about the space environment necessary to ensure reliable operations of current space-based and ground-based systems, to facilitate the analysis of system anomalies that may be the result of space environmental effects, and to guide the design and efficient operations of future systems that may be affected by the space environment.



Electron Detection

SEM-N will maintain space environment data continuity with the legacy systems of the Defense Meteorological Satellite Program (DMSP) and the Polar-orbiting Operational Environmental Satellites (POES).